

CLAIMS

I claim:

1. A device for detecting neutrons, comprising:
 - 5 a detection body disposed between electrodes, wherein said detection body comprises hexagonal boron nitride;
 - power supply means for applying a voltage to said electrodes; and
 - means for detecting and measuring a signal response emitted by said detection body as said detection body is exposed to neutrons.
 - 10 2. The device of claim 1, wherein said hexagonal boron nitride is pyrolytic hexagonal boron nitride.
 - 15 3. The device of claim 1, wherein said boron nitride is enriched with the isotope ^{10}B .
 4. The device of claim 3, wherein said enrichment is up to about 100%.
 - 15 5. A method for detecting neutrons, comprising:
 - providing a detection body disposed between electrodes, wherein said detection body comprises hexagonal boron nitride;
 - exposing said detection body to thermal neutrons; and
 - measuring a signal produced as the result of a conversion process
 - 20 within said hexagonal boron nitride, wherein neutrons incident on said detection body are converted to a plurality of detectable energetic charged particles.
 6. The method of claim 5, wherein the hexagonal boron nitride is pyrolytic hexagonal boron nitride.

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